ALGAE TASK FORCE MEETING #2
MEETING SUMMARY
June 3, 2010

1. **Meeting Summary – May 6**
   A revision was made at the request of NDEP. All references to NDEP have been changed to LMWQF because the two of them are not the same entity. The only exception is that NDEP will be the one to maintain the website where all the Task Force documents will be posted.

2. **Additional Agenda Items**
   Density – surfer plots: Todd (see #6)

3. **Background Information**
   a. Lake Las Vegas Report
      - Peggy noted that in the report it listed that Cylindrospermopsis is the second most frequently identified organism (page 38).
      - The Lake Las Vegas permit is not comprehensive and does not require them to do any characterization of water quality going out of the lake due to an overflow.

   b. Lake Mead Algae Report and Monitoring Plan

   c. Storm data graph – lb/day P variation
      - MWH storm data was plotted with flow to get lbs/day. Very variable and the question becomes where does it insert into the lake (top or bottom).
      - Dan Fischer commented that another variable might be the ratio of Total P to Ortho P because it has been said that a lot of the P that comes down during a storm is heavily associated with stuff that settles out very rapidly in the inner bay.
      - When the discharger's discharge it doesn't matter whether it is Total P or Ortho P because it will go into Ortho P fairly readily because of the bacteria of taking it up and the bacteria will give up the P.
      - The question becomes when was it sampled. Todd's guess is the very first flush may have a lot of Ortho, but the short term but slightly longer term first flush will all be Total P then as it goes by it will shift. The oddity of the rainfall also has an effect.
      - Doug asked MWH personnel if they took temperature readings when they sample because when looking at density one of the factors is temperature. They currently do not, but they will pass on the request to Kevin Eubanks. Dan will also pass the request along at the next meeting. The information will help characterize what is really occurring during a storm.

   d. Updated Conductivity surfer plots
      - For reference so the group can stay updated on what is going on in the lake
      - Todd and Doug are going to try to use surfer plots to look at density and also to be more proactive and define when there are critical periods

   Peggy offered two additional monitoring plans:
   Cylindrospermopsis Monitoring Plan
   Blue Green Algal Toxins Monitoring Protocol & SOP – Spring 2004
   These will be posted along with all the other documents on the website - http://ndep.nv.gov/forum/algae.htm

4. **LMWQF Update – Kathy Sertic**

   Doug reported that her plane flight was cancelled from Reno (possibly due to lack of passengers). She has asked to have meetings in the morning (10 or 11) and will have try to have one or two people attend. They are working on getting all the information from the Task Force on to NDEP-LMWQF website.

5. **Task update**

   a. Storm samples above City of Henderson's discharge point – Dana reported that they will be able to sample during a storm or right after. However, they will not be able to sample after work, nights, weekends, or holidays. Doug asked Dana to find out the exact location of the sample site. She asked what the criterion is for them to go out and sample. MWH stated they watch the rain gauges on the RFCD website and generally they go when it is .16 inches.

   b. Storm samples from bridge near Lake Las Vegas – Dana said that staff would probably not feel comfortable collecting here due to safety issues and the dirt road**.**

   c. Storm samples on CCWRD property – Doug reported that he spoke to our Lab Manager and his staff will gather samples at the road that crosses the Wash (above Monson) whenever it storms and the road is submerged.

   d. MWH storm sampling

      - Stormwater samples are collected per the RFCD permit at two sites: 1)Desert Rose Golf Course downstream of the LV Wash and Flamingo confluence and upstream of CLV and CCWRD 2) Rainbow Gardens
      - They sample for a long list of constituents, oil, grease, metals, organics, and are looking for a representative sample of first flush.
      - Automatic wire actuators are in the Wash channel set fairly low. Samples are collected at non-specific intervals
      - There are 24-1 liter bottles set to collect a sample at 3 minute intervals then they are composited together to get a representative flow rate sample of the first flush
      - During storm events because they because they happen so infrequently, a person usually goes out as well to take a grab sample at 3 minute intervals that is also composited together
      - 2-3 samples are collected at each site during a large event, but everyone is interested in data and so by mutual agreement the collection of extra samples is usually done. The contract allows for payment for collecting extra samples.
      - Contract - Dan Fischer asked if it was a public document and if so, could he get a copy of it.
      - 75% of the samples collected are done so automatically
      - The recorded sample time is an average of when the first sample is taken and when the last sample is taken
      - Results are listed in their report as well as the SNWA website. Doug asked Dan to get a copy during the next meeting to share with the Task Force
      - The contracted 2-3 composite samples are tested for everything, samples after that are tested based on a short list of requirements
      - No testing is done at the detention basins

      It was discussed to have MWH save at least 10ml in each bottle so that the City of Henderson could analyze P separately instead of in a composite sample.

Trying to characterize a storm event in terms of TDS, conductivity, and temperature will be interesting due to a dynamic that it takes a large amount of P over a short amount of time inserted into the lake in a certain spot.

Peggy said there is 1 full time hydrolab located in the Wash that would have data back to 2001 that could be reviewed during the time when we know there was a storm.

Doug said he is trying to look back at what the previous Task Force said were factors and their recommendations then start monitoring (insertion, density) those. That leads to the second highest P which is stormwater. The tasks then will need to include collecting data, having a system to look at it, produce procedures, and do it all for a few years. Every spring / summer when it gets critical we will really need to take a look at what is happening on a more real time basis.

6. Additional Information? / Samples?

a. When speaking with NDEP, they said if there is a need for more analysis of Lake Las Vegas and since you have a lab can you not do it yourselves? However, Lake Las Vegas does not allow samples to be taken by outside parties. Peggy suggested if there is something we really want to see to give them the bottles and have them take samples. The samples they take monthly are part of their permit and then listed in the annual report, but it only comes out once a year. Sharing data would be very beneficial. Lake Las Vegas sampling needs to include Chl-a concentrations, temperature, conductivity, and speciation to know what kind of algae is growing, so you can characterize what is going out of the lake. When it overflows a significant amount of algae is being introduced into the bay and may or may not take off, but they are being seeded. The lake has nutrient concentrations representative of what it is, a moderately productive, moderately sized, becoming utrified lake. Not a huge source of P or nutrients, but the TDS could be higher and impact the Wash and the conditions are such that it could allow certain algae to grow at higher concentrations than at other times. They are prohibited from discharging anything toxic or with toxic amounts, but if there is a fish kill then does that warrant a toxicity test?

b. CCWRD will sample the Wash during high flows (see 5c. above)

c./d. Is there anything happening in the first 1.2 miles that would make it beneficial to get more data? SNWA has stopped sampling for now due to falling lake level and lack of distinct channel. Lake side of interface is taken (site LWLVB_B). However, as lake levels continue to drop and a distinct channel forms again the plan is to renew the sampling of the Wash side of the interface (LWLVB). Sample site is located by GPS and really falls around .1 mile out. Where data is being collected 1.2 miles out is currently close to the fixed site of LVB 4.15. Previous task force said that the lowering of the lake had some impact because it makes the Bay smaller, so therefore adverse affects should be seen as the level goes down. But since 2005 the water quality in the Bay has improved. It is a huge Bay relative to what comes down the Wash. Todd is looking at this and yes, at 900 feet it is a tiny little Bay and short retention time will work for us there. The Wash water will flush the whole Bay within a day and push on out to the Basin. Between 900 and 1000 the ratio will be such that the Wash

volume will become some critical percentage of the Bay volume. There are some topography issues that may also have an impact.

Todd passed around a packet of calculated densities for May and June. They are calculated two ways: 1) just using temperature and 2) temperature and conductivity and then both are displayed various ways for various sites. The second to the last page shows data points that are circled because they show a slight decrease in density using temperature alone whereas when you look at the data calculated using temperature and conductivity that decrease is lost. This is one of the few times you can see a big difference where the conductivity of the water and the selenity of the water had a noticeable effect.

7. **Tasks for next meeting**
   Dan will request to have MWH measure temperature when they do their sampling. Also, ask them to save a minimum of 10ml for the City of Henderson to do sampling with.
   Dan to get a copy of the MWH report during their next meeting to share with the Task Force
   Dana will work with MWH to pick up the samples for testing
   Todd and Doug will work on density to see how it enters the Bay
   Doug will work on gathering LWLVB_B data and reviewing

8. **Public comments**

9. **Set next meeting date**
   Thursday, July 22 at 10:30 a.m. at COH (following Valley Discharger meeting) – meeting appointment will be sent out